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CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

25X1A

COUNTRY Union of South Africa

SUBJECT Miscellaneous Notes on Mineral Deposits/Geological Map

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COAL

- South African coal deposits occur in the Ecca geologic series of the Karroo system which is equivalent to the US-European Permian series. The thickest and best quality coal seams are in Natal although the 24 Witbank collieries in the Transvaal are the biggest producers. The yearly coal production of the Union in approximate long tons follows:

Transvaal (Witbank mines)	18,000,000
Cape	1,000,000
Orange Free State	3,000,000
Natal	5,000,000
Total	27,000,000 long tons

South African geologists estimate that the coal deposits will last from 2/3000 years at the present rate of production.

- The chief obstacle to the coal industry is the lack of transportation facilities from the mines to the ports. Neither the actual railroads nor the hopper cars exist in nearly adequate quantities.

COPPER

- Copper occurs in only two localities, Namaqualand and the northern Transvaal. 1948 production figures, in terms of pounds sterling, are:

Namaqualand	1,996,000
Transvaal	1,118,000

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ASBESTOS

4. South African asbestos is the world's finest and amosite is the best of all the South African types. Amosite has fibres from four to seven inches long, is very flexible and is highly resistant to acids. The Pietersburg-Liedenburg fields in the Transvaal is the biggest producer.
5. In the Cape province, deposits of brocidolite asbestos are found in a belt 150 miles in length, extending from 30 miles south of Preiska northward through the Kuruman Plateau.

MANGANESE

6. The Postmasburg mines in the northern part of the Cape province produce 50% of the manganese mined in South Africa. The deposits found in the Klipfontein Hills are siliceous ores while those in the Gamagara Hills are ferruginous.
7. Typical chemical analyses of these ores follow:

Braumite (siliceous) ores - $Mn_2O_3 + SiO_2$
 Sitaparite (ferruginous) ores - $9Mn_2O_3 \cdot 4Fe_2O_3 \cdot MnO_2 \cdot 3CaO$

Postmasburg is an open pit mine having many quarry faces because the deposits are patchy. 2 ft 6 in gauge rail lines have been extended from Kimberly and the town of Postmasburg to the mines.

PLATINUM

8. The biggest platinum mine in South Africa is at Rustenburg in the Transvaal; South Africans consider it the richest platinum mine in the world. In 1948 its refined platinum was valued at R13.8 per ounce; it produced, in 1948, £891,000 worth of platinum. Rustenburg pays for all its operating costs with gold which is also found in the mine thus getting out the platinum as pure profit.
9. The platinum veins in Rustenburg are only 12 inches wide and the native miners work in a tunnel only 24 inches square.

CHROMITE

10. All South African chromite comes from the Transvaal and is found in two belts running roughly north and south. They are:

Western belt - 100 miles west of Rustenburg
 Eastern belt - 75 miles east of Liedenburg

Almost all the chromite is exported to Lourenco Marques in Mozambique.

- End -

[Available on loan from the CIA Library are the following documents:

1. Photostat of a typical mine shaft in the South African Coal Estates (Witbank) Ltd, showing depth of shaft, geological strata and various seams.
2. Geological Map of South Africa, legend attached, showing, various mineral deposits and geological formations.]

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P.

SOUTH AFRICAN GEOLOGICAL FORMATIONS.EUROPEAN - US

POST CRETACEOUS	{	Surface Quartzite, Tufa, Raised Beaches	{	Tertiary &
		Kalahari Formation		Recent.
		Alexandria System		Tertiary.
cc CRETACEOUS	{	Umzamba Series	{	Upr.Cretaceous
		Middle Cretaceous of Zululand		Mid.Cretaceous
		Uitenhage Series		Lr.Cretaceous
KARROO SYSTEM.	{	SB { Stormberg Series {	{	Lr.Jurassic
		Drakensberg Lavas Cave Sandstone Red Beds Molteno Beds.		
	{	Beaufort Series	{	Triassic
		Ecce Series		Permian
	{	Dwyka Series {	{	Upper Carboniferous
		Upper Dwyka Shales Dwyka Tillite Lower Dwyka Shales		
CAPE SYSTEM.	{	Witteberg Series	{	Carboniferous
		Bokkeveld Series		Lr.Devonian.
		Table Mountain Series		

WATERBERG SYSTEM (Tvl) ≠ MATSAP SYSTEM (Cape)

(BUSHVELD COMPLEX).

TRANSVAAL SYSTEM.	{	Rooiberg Series	{	NAMA
		Pretoria Series = Ibiquas		SYSTEM
		Campbell Rand = Dolomite = Malmesbury		Cambrian?
		Black Reef = Niewerust.		
VENTERSDORP SYSTEM	{		{	Pre Cambrian
WITWATERSRAND SYSTEM (OLD GRANITE)				
PRIMITIVE SYSTEMS (SWAZILAND, BARBERTON, KHEIS)				

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— SECTION —
 OF
 — NAVIGATION SHAFT. —
 SCALE 1:500.
 — SOUTH AFRICAN COAL ESTATES (WITBANK) LTD. —



